



# An Analysis of Korean TAME morphemes

*(How) is Evidentiality marked?*

Anne van Laar  
S1048239  
06-02-2022  
Master's Thesis  
Helen de Hoop

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## Abstract

This study presents an overview of a number of different theories regarding evidentiality marking in the Korean language. There is a wide variety in opinions regarding evidentiality in Korean, and the main goal of this study is to develop a single analysis that can account for the data used in the literature to support differing views. To do so, the presented theories are analysed so that discrepancies can be uncovered and taken into account.

The results of the analyses suggest that the Korean morphemes are cumulative, and, in this case, express tense, aspect and possibly evidentiality. However, it could also be the case that Korean uses evidentiality strategies rather than using a closed system of grammatical forms. This is because imperfective aspect presents actions from an internal perspective, which could give rise to an evidential interpretation. Hence, the possibility that none of the mentioned morphemes mark evidentiality should not be ruled out.

## Abbreviations and Symbols

-	affix boundary
=	clitic boundary
∅	absence of overt marker

1	first person	LOC	locative
2	second person	M	masculine gender
3	third person	MOD	epistemic modal
ACC	accusative	MOOD	mood
ADN	adnominalizer	MOT	motion
ANP	antipassive	N	non-
ANT	anterior	NCL	noun classifier
APPL	applicative	NEG	negative
ATT	attributive	NMLZ	nominalizer
AUX	auxiliary	NOM	nominative
BM	boundary marker	NVIS	non-visual evidentiality
CERT	certainty	OBJ	object
COL	collective	PAST	past tense
COMP	complement clause	PFCT	perfect tense
COMPL	completive	PFV	perfective aspect
CONJ	conjunction	PL	plural
DAT	dative	POSS	possessive
DECL	declarative	PRI	progressive intransitive marker
DEM	demonstrative	PROG	progressive aspect
DES	desiderative	PRES	present tense
DIST	distant	R	respectful
DN	deverbal noun	REA	reasoning-based
DIR	direct evidentiality	REC	recent
DUB	doubt	REL	relative
F	feminine gender	REM	remote
FNS	final nominal suffix	REP	repetitive
FRST	frustrative	REPORT	reportative
FUT	future	RES	result-based
GEN	genitive	RETRO	retrospective
GER	gerund	SBJ	subject
HUM	human	SCND	second-hand
INCH	inchoative	SENS	sensory
IND	indirect	SG	singular
INF	inferred evidentiality	THRD	third-hand
IMPF	imperfective aspect	TOP	topic
INS	instantaneous perception	V	verb
INT	intentional	VM	verbal stem marker

## 1. Introduction

This study presents an overview and analysis of evidentiality marking in the Korean language. The function of this chapter is to introduce this thesis, of which the main goals are:

- (i) to discuss and uncover discrepancies among a number of different theories regarding Tense, Aspect, Mood and Evidentiality (TAME) marking in Korean,
- (ii) to develop my own analysis regarding Tense, Aspect and Evidentiality markers in Korean.

Many Korean linguists have used Tense, Aspect and Mood (TAM) to analyse their native language. Only recently have they started taking the later added Evidentiality category into account. Since then, a wide variety in opinions regarding the number and types of evidentiality markers, as well as their syntactic and semantic functions in Korean have been presented. Sohn (2018) states that more than twenty different items have been proposed as evidentiality markers.

Evidentiality in language is used to express what kind of evidence a given statement is based on, such as nonvisual sensory evidence or hearsay (Aikhenvald, 2004). Many European languages express evidentiality by using modal verbs, such as *zouden* 'should' in Dutch, which can be used to express hearsay evidentiality, although this is not the primary function of this modal verb. However, evidentiality can be conveyed in a variety of ways, not just with modals. Some languages have a distinct grammatical category to express evidentiality, which can consist of affixes, particles or clitics, depending on the language. It is generally agreed that Korean is a language that marks evidentiality, the question that remains is how.

To research that question, six different theories on Korean evidentiality marking will be summarised and discussed in Chapter 3. To prevent confusion, it is important that I explain my choices in presentation here. Throughout this thesis, many examples of sentences in Korean are given. The morphemes in these sentences that this thesis concerns, are shown in bold. The examples were adopted from different authors, who often times glossed the same morpheme in different ways. It was decided to keep the original glosses of the authors in Chapter 2 and Chapter 3, as they serve as a visualisation of their theories, and because they clearly illustrate the variety in views. In Chapter 4 I use my own glosses to illustrate my own views regarding TAME in Korean.

This thesis is structured as follows: First, the theoretical assumptions concerning TAME marking in the languages of the world are explained in Chapter 2. The main body of this thesis consists of Chapter 3, which provides the overview of six different analyses of Korean evidentiality marking, and Chapter 4, which describes my own ideas about the marking of evidentiality in Korean. In Chapter 5, conclusions and implications of my analysis are given.

## 2. Tense, Aspect, Mood & Evidentiality

### 2.1 The Korean Discussion

As already mentioned above, there are many different opinions regarding evidentiality in Korean. For example, Lee (2011) suggests that there are no distinct evidentials for specific sources of information. Instead, the different types of evidence are described by the evidential *-te*, of which the meaning changes depending on the interaction with temporal categories. In contrast to Lee (2011), Chung (2020) proposes that *-te* itself is not an evidentiality marker, but that it instead creates an environment for evidentials. She analyses the zero morpheme  $-\emptyset$  as a direct evidential, *-ess* as a result-based indirect evidential, and *-keyss* as reasoning based indirect evidential respectively, but only when they appear in combination with *-te*.

Kim (2012) states that there are three types of evidentials in Korean, namely the direct *-te*, the reportative *-tay*, and the inferential *-ci*. Based on this analysis he concludes that the evidential system in Korean corresponds to the B1 system, as proposed by Aikhenvald (2004). Song (2020) identifies four grammatical markers of evidentiality on Korean, namely the past sensory evidential *-te*, the present sensory evidential *-ney*, the reported evidential *-tay*, and the inferred evidential *-keyss*.

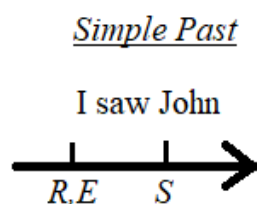
These theories, which will be discussed in more detail in Chapter 3, show just how different the ideas about evidentiality in Korean are. Sohn (2018) attributes the variety in these theories to the different interpretations of the criteria for evidentials, to the overlap between modality and evidentiality, and to the polysemous nature of the suffixes. Kim (2018) points out that it is difficult to build a reliable evidential system in Korean, because Korean suffixes are related to various categories like tense, aspect and mood. They can easily be interpreted as more than one category in many cases, because the interpretation is dependent on the interaction with these categories. Furthermore, Sohn (2018) explains that using evidential in Korean is optional, which means that omitting an evidential does not make an utterance ungrammatical. What this makes clear, is that a basic understanding of Tense, Aspect, Mood and Evidentiality marking is needed before discussing the theories in more detail.

Tense, aspect, mood and evidentiality (TAME) are grammatical categories, often manifested inflectionally, which are found in the majority of all languages around the world. Dahl (2013) explains that the information that TAME markers express is often marginal or redundant to the message that is conveyed by the speaker. However, at the same time, they do express very subtle semantic distinctions. Dahl (2013) also states that TAME systems are usually more differentiated in the past than in the present and future, and that evidential and aspectual marking are often restricted to past tense because of this.

## 2.2 Tense

Tense is a deictic category which expresses the location of an event in time (event time) in relation to the time of an utterance. Tensed languages use morpho-syntactic marking to express this. Reichenbach (1947) distinguishes three different time points that tenses have: the point of speech (S), the point of the event (E), and the point of the reference (R). In a sentence like “Peter had gone” the point of the event is when Peter went, while the point of reference is a time between the point of the event and the point of speech. The point of reference is determined based on the context of speech. Reichenbach (1947) states that “in the simple past, the point of the event and the point of reference are simultaneous, and both are before the point of speech” (Reichenbach, 1947, p. 72). This leads to the structure seen in (1) (Reichenbach, 1947).

(1)



The tense is based on when the event (E) occurred in relation to the time of speech (S). The point of the event can be before the time of an utterance, simultaneous to the time of an utterance or after the time of an utterance, which results in the anterior (past), present and posterior (future) respectively (Błaszczak et al., 2017).

### 2.3 Aspect

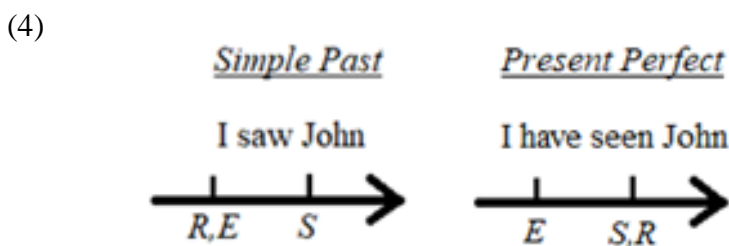
Aspect, which is closely related to and interacts with the category of tense, expresses the temporal relation between the event time and reference time, also described as the internal time of the event itself. In other words, aspect expresses the ‘how’ of the event, whereas tense expresses the ‘when’ (Mueller, 2013). This category can be divided into perfective aspect and imperfective aspect. Perfective aspect presents actions or events as complete from an outside perspective. Imperfective aspect presents actions or events from an internal perspective. Imperfective aspect is further broken down into progressive aspect, which is used for ongoing actions, and habitual aspect, which describes repetitive actions. In (2) and (3) examples of marking perfective and imperfective aspect are shown.

- (2) Hixkaryana (Mueller, 2013, p. 91)  
r-otaha-**yako**  
3SBJ.1OBJ-hit-REC.PFV.PAST.NCOL  
“He hit me.”
- (3) Hixkaryana (Mueller, 2013, p. 92)  
a. oy-owakrye-**yatxkoni**  
3SBJ.2OBJ-make happy-DIST.IMPF.PAST.COL  
“They made you happy.”
- b. ni-emen-**yakoni**  
3SBJ-steal-DIST.IMPF.PAST.NCOL  
“He used to steal.”

Reichenbach (1947) gives an example of imperfect aspect in French. French has two different past tenses: the *passé défini* (simple past) which expresses perfective aspect, and the *imparfait* (imperfect), which expresses imperfective aspect, which results in different perspectives of the event. The *imparfait* is an extended tense, which indicates that the event covers a stretch of time, while the *passé défini* is not an extended tense. This difference corresponds to the perfective/imperfective distinction (Grisot, 2018).

Another aspect is the perfect, not to be confused with perfective aspect, expresses that the event or action occurred prior to the reference time. However, it must be noted that the perfect does not seem to be a true aspect marker. Mulder et al. (to appear) consider the perfect to be a combination of tense and aspect. According to them, this is reflected by the fact that the perfect is a complex construction, consisting of an auxiliary (tense marker) and past participle (perfective aspect) in most languages, like the present perfect in English.

The difference in English between simple past and present perfect is visualised in (4) (Reichenbach, 1947).



## 2.4 Mood

Mood or modality is a semantic category which expresses the non-factuality of a proposition, and is most commonly expressed through verb inflection, modal verbs or particles. For example, the subjunctive mood is used to express something that is hypothetical or doubtful, as in the English phrase “If I were (...)”.

Modality is often divided into deontic modality and epistemic modality. Deontic modality is related to obligation or permission. Epistemic modality is related to opinion, belief or knowledge (Hermont & Martins, 2020) and is used to express certainty of a given statement. The degree of certainty can range from completely uncertain to very certain. Certainty refers to how committed the speaker is to the truth of the statement. An example of a language that expresses certainty is Mosestén, in (5a) a sentence expressing high certainty is shown, whereas (5b) shows a sentence with low certainty.

- (5) Mosestén (Mueller, 2013, p. 142)
- a. **chhata'**      yäe      rai's-e-'      jaem'-ñae'-tye-'  
CERT      1SG      want-VM-3F.OBJ      good-VM-APPL-3F.OBJ  
“I truly want to make it.”
- b. **watyeke**      jao-tya-k-wa-'jo-i  
DUB      smoke-VM-ANP-PROG-PRI-M.SUBJ  
“Maybe he is smoking (fish).”

## 2.5 Evidentiality

Evidentiality is used to express the source of the information of a given statement. According to Aikhenvald (2004), evidentiality distinctions in languages are most often found in the past tense, and usually not in future tense. Willett (1988) suggested, based on the investigation of 38 languages, that a number of different types of evidence, shown in Figure 1, can be grammaticalized.

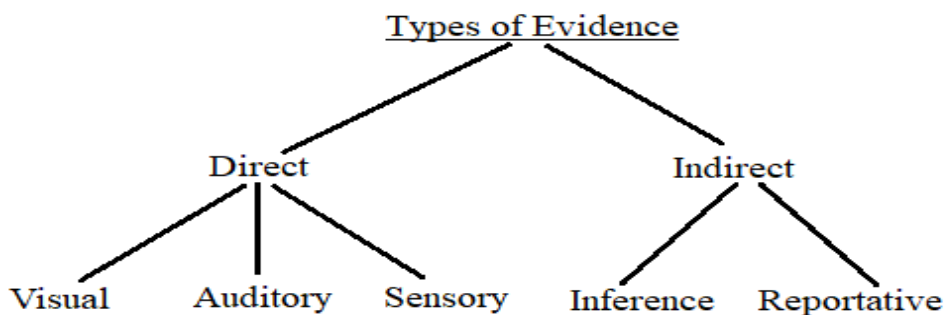


Figure 1 Types of information sources in Willett (1988), based on Lee (2010).

Evidentiality can be divided into two kinds, namely direct evidentiality and indirect evidentiality. Direct evidentiality is used when the event is directly witnessed through one of the five senses, so visual, auditory and other sensory evidence belong to this category. Indirect evidentiality is used when the event is not directly witnessed, so inferences, assumptions, reportatives and quotatives belong to this category of evidence. Aikhenvald (2004) defines these sources as follows:



- |                     |  |
|---------------------|--|
| i. VISUAL           | evidence acquired through seeing                             |
| ii. SENSORY         | evidence acquired through senses other than seeing           |
| iii. INFERENCE      | based on visible or tangible evidence/result                 |
| iv. ASSUMPTION      | based on evidence other than visible results, e.g. reasoning |
| v. REPORTED/HEARSAY | reported information with no reference to the source         |
| vi. QUOTATIVE       | reported information with reference to the source            |

When an evidentiality marker is classified as direct, it can refer to any kind of direct evidence. When a marker is specifically classified as visual or sensory, it can only refer to that specific type of evidence. An example of a visual marker can be found in the language Karo, as seen in (6) (Mueller, 2013).

- (6) Karo (Mueller, 2013, p. 209)
- |           |          |             |         |         |          |
|-----------|----------|-------------|---------|---------|----------|
| péŋ       | ʔe-t     | <b>topə</b> | to=at   | macaʔit | wĩ-a     |
| white.man | AUX-IND1 | be.seen     | 3R=POSS | pet     | kill-GER |
- “[It was seen that] the white man killed his pet.”

Just like a direct evidentiality marker can refer to any kind of direct evidence, an indirect evidentiality marker refer to all kinds of indirect evidence. It is shown in (7) that in the language Tapiete, the marker *-nda* refers to reportative, hearsay and inferences. However, there are also languages that mark a specific type of evidence. In (8) an example of Cavineña is shown, which marks the reportative, and in (9) and example of marking an inference in Kwaza is shown.

- (7) Tapiete (Mueller, 2013, p. 210)
- |    |                |               |         |
|----|----------------|---------------|---------|
| a. | ou- <b>nda</b> | arka'e        | ko-pe   |
|    | 3:come-NFRST   | long time ago | DEM-LOC |
- “[They say that] (s)he came here a long time ago.”
- |    |                 |               |     |
|----|-----------------|---------------|-----|
| b. | yáwa- <b>da</b> | ha'e-ipi      | iko |
|    | tiger-NFRST     | (s)he-LOC.MOT | be  |
- “[It is said that] the tiger lives over there.”
- |    |                    |              |
|----|--------------------|--------------|
| c. | ñaimba- <b>nda</b> | ndu-su-e     |
|    | dog-NFRST          | 2SG-bite-REC |
- “It seems it is the dog (the one that) bit you.”
- (8) Cavineña (Mueller, 2013, p. 211)
- |       |       |               |                            |               |
|-------|-------|---------------|----------------------------|---------------|
| amena | [tuna | nawi-karama   | ju-ya=ju]= <b>pa</b> =tuna | katsa-kware   |
| BM    | 3PL   | bathe-DES.NEG | Be-IMPF=DES=REP=3PL        | beat-REM.PAST |
- “It is said that when they (our ancestor’s children) refused to bathe, they (our ancestors) would beat them.”
- (9) Kwaza (Mueller, 2013, p. 212)
- |                        |
|------------------------|
| a'we-hỹ- <b>tehere</b> |
| rain-NOM-INF           |
- “It must have rained” (I did not see it rain, but the ground is wet)

Not all languages express evidentiality, and with the examples shown above it has become clear that not all languages that express evidentiality express it in the same way. Aikhenvald (2004) has identified that language can have one of many possible evidentiality systems, such as a two-term system to express two types of evidentiality, or even a five-plus term system. An overview of a number of these systems is shown below in Table 1.

	System Name	Evidentiality
<b>Two-term system</b>	A1	Visual, Non-visual
	A2	Indirect, Everything else
	A3	Reported, Everything else
<b>Three-term system</b>	B1	Visual (or Direct), Inference, Reported
	B2	Visual, Non-visual sensory, Inference
	B3	Non-visual sensory, Inference, Reported
<b>Four-term system</b>	C1	Visual (or Direct), Non-visual sensory, Inference, Reported

Table 1 Overview of Evidentiality systems, adopted from Aikhenvald (2004).

Although expressing certainty of a statement (epistemic modality) and expressing the source of the information in a statement (evidentiality) seem to be two relatively distinct definitions, Aikhenvald (2004) mentions that evidentiality markers can have reliability of information as an additional meaning. This makes it difficult at times to distinguish between the two categories. Furthermore, there seems to be a correlation between the epistemic strength of a statement and its evidence. Direct evidence intrinsically implies greater certainty, while indirect evidence can be interpreted as being less certain (Ayoun et al., 2018). This study acknowledges that there is overlap between epistemic modality and evidentiality, but will continue to regard them as two separate categories.

Aikhenvald (2004) states that evidentiality can be marked independently of modality or tense-aspect choice, but that it is also possible that evidentiality markers are fused with tense-aspect markers. Besides, there is also intrinsic overlap between evidentiality and the future. This becomes clear when looking at English “will” and “going to”, which can be used to make predictions based on either personal experience or present evidence. These predictions can easily be interpreted as statements based on inferential evidence.

## 2.6 Portmanteau, Cumulative & Ambiguous Morphemes

As discussed, the distinctions between the TAME categories is not always clearcut. Another thing that adds to the difficulty of this, is the phenomenon called *portmanteau morphemes*. Mueller (2013) explains that a portmanteau morpheme is a morpheme that combines two or more features which also exist independently. She gives the example of the French *du*, which combines *de* (of) and *le* (the).

Cumulative morphemes are very similar to portmanteau morphemes, in that they combine two or more features. The difference, however, is that cumulative morphemes do not have coexisting independent forms. An example of a cumulative morpheme is *-ja* in Tiriyó, which expresses present tense and imperfective aspect at the same time, as shown in (10). Another example of cumulative markers can be found in Mamaïnde, in which the cumulative evidentiality suffixes also express tense, as shown in (11). Mueller (2013) describes that these morphemes can be cross-categorical but not intra-categorical. This means that a cumulative morpheme can, for example, express a tense and an aspect but can never express two tenses.

- (10) Tiriyo (Mueller, 2013, p. 5)  
 fevereiro po tarëno-ton eperu pëë-**ja**-n  
 February LOC Tiriyo-COL fruit gather-PRES.IMPF-DUB  
 “In February, the Tiriyo gather fruits.”
- (11) Karo (Mueller, 2013, p. 225)
- a. waʔnĩn-soʔka tajãn-tu sun-satau-le-Ø-**hĩn**-wa  
 shaman-NCL.HUM jaguar-FNS kill-SCND-PAST-SBJ3-PAST/NVIS-DECL  
 “The shaman killed a jaguar (yesterday).” (and I know this because someone told me)
- b. waʔnĩn-soʔka tajãn-tu sun-sĩn-Ø-nha-wa  
 shaman-NCL.HUM jaguar-FNS kill-THRD-SBJ3-PRES/NVIS-DECL  
 “The shaman killed a jaguar (yesterday).” (and I know this because someone said they were told that it was so)

Morphemes that express intra-categorical meanings do exist, however. These morphemes are called *ambiguous morphemes*. For example, this occurs when a morpheme expresses the nonfuture tense, and thus is interpreted as present tense or past tense. In contrast to the portmanteau and cumulative morphemes, ambiguous morphemes do not express multiple features at the same time. In other words, only one of the meanings of the morpheme applies to the sentence it appears in. An example of an ambiguous marker is shown in (12).

- (12) Hixkaryana (Mueller, 2013, p. 6)  
 namrye**yaha**  
 “He is going hunting (now).” or “He will go hunting (sometime soon)”, or “He hunts”.

The marker *-yaha* in Hixkaryana has the meaning NONPAST, which means that it codes either the present tense or future tense. Which of the meanings is the correct interpretation, depends on the context of the sentence.

### 3. Theory overview

#### 3.1 A Modal Analysis

Lee (2011) claims that there are no markers in Korean which specify distinct sources of information in Korean. Instead, she claims that the evidential *-te* gives rise to different reading depending on which tense it occurs with. She suggests that when *-te* occurs with the present tense it gives rise to a direct evidential reading, whereas *-te* occurring with the past tense gives rise to an indirect referential meaning, as shown in (13).

(13) Korean (Lee, 2011, p. 287)

*Context a:* Yesterday, the speaker was looking outside through a window. Now, he says:

ecey	pi-ka	o-Ø-te-la
yesterday	rain-NOM	fall-PRES-te-DECL

“[I saw that] it was raining yesterday.”

*Context b:* Yesterday, the speaker saw that the ground was wet. Now, he says:

kucekkey	pi-ka	o-ass-te-la
the.day.before.yesterday	rain-NOM	fall-PAST-te-DECL

“[I inferred that] it rained the day before yesterday.”

According to Lee (2011) there are three tenses in Korean, namely past tense *-ess*, present tense *-Ø*, and future tense *-keyss*. The tenses provide the relation between the time of the event and the utterance time. The past tense locates the eventuality time prior to the utterance time. The present tense locates the eventuality time at the same moment as the utterance time. Finally, the future tense locates the eventuality time after the utterance time.

When the evidentiality marker *-te* is added to an evidential sentence, it provides the evidence acquisition time of an eventuality in relation to the utterance time Lee states that there are nine possible temporal relations between the evidence acquisition time and the utterance time, and between the evidence acquisition time and the eventuality time, as shown in Table 1, taken from Lee (2011). These contexts are exemplified in (14). EVI stands for evidence acquisition time, E refers to the point of the event, and S refers to the point of speech. < and ° represent a temporally sequential relation and a temporal overlap.

	<b>E &lt; EVI</b>	<b>E ° EVI</b>	<b>EVI &lt; E</b>
<b>EVI &lt; S</b>	Context 1	Context 2	Context 3
<b>EVI ° S</b>	Context 4	Context 5	Context 6
<b>S &lt; EVI</b>	Context 7	Context 8	Context 9

Table 2 Temporal relations, adopted from Lee (2011).

- (14) Context 1: The speaker saw the wet ground yesterday.  
 Context 2: The speaker saw it was raining yesterday.  
 Context 3: The speaker saw the overcast sky yesterday.  
 Context 4: the speaker is seeing the wet ground now.  
 Context 5: The speaker is seeing it rain now  
 Context 6: The speaker is seeing the overcast sky now.  
 Context 7: The speaker will be seeing the wet ground tomorrow.  
 Context 8: The speaker will be seeing that it will be raining tomorrow.  
 Context 9: The speaker will be seeing the overcast sky tomorrow.

Lee (2011) explains that although the first three contexts have the same acquisition time of evidence, namely prior to the utterance, different temporal relations between the eventuality and the evidence acquisition time are required to express the difference in evidence. This is exemplified in (15).

- (15) Korean (Lee, 2011, p. 290)
- a. pi-ka                    o-**ass-te**-la  
rain-NOM                fall-PAST-te-DECL  
“[I inferred that] it had rained.”
- b. pi-ka                    o-**Ø-te**-la  
rain-NOM                fall-PRES-te-DECL  
“[I saw that] it was raining.”
- c. pi-ka                    o-**keyss-te**-la  
rain-NOM                fall-FUT-te-DECL  
“[I inferred that] it would rain.”

In contrast to common evidentiality systems, *-te* in Korean does not indicate the type of evidence acquired by the speaker. This is shown in (15), which all use the marker *-te* but are interpreted differently. In (15b) *-te* gives rise to a direct evidential reading, as indicated by “*I saw*” in the translation, whereas in sentences (15a) and (15c) it gives rise to an indirect evidential reading (“*I inferred*”). The difference in interpretation is determined by the interaction of *-te* and the tenses. With past and future tense, the two time intervals of evidence acquisition and eventuality cannot overlap, which means the speaker cannot acquire direct evidence. Instead, the speaker has to infer the existence of a described eventuality based on indirect evidence. When *-te* is used with the present tense, the time intervals of acquiring the evidence and the eventuality overlap, which can lead to different forms of direct evidence as shown in (16).

- (16) Korean (Lee, 2011, p. 294)
- Context a:* The speaker drove home. Now, he says:  
nun-i                        o-**Ø-te**-la  
snow-NOM                fall-PRES-te-DECL  
“[I saw that] it was snowing.”

*Context b:* The speaker was at the library yesterday. Now, he says:  
tosekwan-i                nemwu                        coyongha-**Ø-te**-la  
library-NOM                very                        quiet-PRES-te-DECL  
“[I made an auditory observation that] the library was very quiet.”

*Context c:* When the speaker woke up, he smelled something from the kitchen.  
Now, he says:  
Yenghi-ga                khaley-lul                        mantul-**Ø-te**-la  
Yenghi-NOM                curry-ACC                        make-PRES-te-DECL  
“[I smelled that] Yenghi was making curry.”

As *-te* seems to give rise to both direct and indirect evidential readings, it is unlikely that *-te* is an evidentiality marker. Instead, Lee (2011) claims that *-te* is an epistemic modal. To substantiate the claim that *-te* is an epistemic modal, Lee (2011) uses Faller’s (2002) tests. Regular modalized utterances that have the form “*must*  $\varphi$ ” assert that the prejacent  $\varphi$  has to be true. If it is followed by assertion of the negation of  $\varphi$ , as shown in (17), it becomes self-contradicting.

(17) It must have been raining. #But it did not rain.

According to Lee (2011) evidential utterances in Korean exhibit the same pattern as modalized utterances, as shown in (18).

- (18) Korean (Lee, 2011, p. 296)
- |    |                                   |                            |                   |                        |
|----|-----------------------------------|----------------------------|-------------------|------------------------|
| a. | pi-ka                             | o-ess- <b>te</b> -la       | #Pi-ka            | an-o- <b>ess</b> -ta   |
|    | rain-NOM                          | fall-PAST- <b>te</b> -DECL | rain-NOM          | NEG-fall-PAST-DECL     |
|    | “[I inferred that] it had rained. |                            | #It didn’t rain.” |                        |
| b. | pi-ka                             | o-Ø- <b>te</b> -la         | #Pi-ka            | an-o- <b>ess</b> -ta   |
|    | rain-NOM                          | fall-PRES- <b>te</b> -DECL | rain-NOM          | NEG-fall-PAST-DECL     |
|    | “[I saw that] it was raining.     |                            | #It didn’t rain.” |                        |
| c. | pi-ka                             | o-keyss- <b>te</b> -la     | #Pi-ka            | an-o- <b>keyss</b> -ta |
|    | rain-NOM                          | fall-FUT- <b>te</b> -DECL  | rain-NOM          | NEG-fall-FUT-DECL      |
|    | “[I inferred that] it would rain. |                            | #It won’t rain.”  |                        |

Another piece of evidence provided by Lee (2011) that suggests *-te* is an epistemic modal, is the ‘Non-equi subject constraint’. This constraint states that the subject of a sentence cannot be identical to the speaker (first person), which is a constraint a tense marker would not usually have. In other words, *-te* cannot appear together with first person when the sentence describes the speaker’s actions, because there is no need to weaken the statement with a modalized utterance. This is not necessary because the truth value is known to the speaker, as shown in (19).

- (19) Korean (Lee, 2011, p. 297)
- |    |  |             |                            |
|----|--|-------------|----------------------------|
| a. | Mary-ka/#nay-ka  | hakkyo-ey   | ka-Ø- <b>te</b> -la        |
|    | Mary-NOM/I-NOM   | school-LOC  | go-PRES- <b>te</b> -DECL   |
|    | “[I made a sensory observation that] Mary/#I was going to school.” |             |                            |
| b. | Mary-ka/#nay-ka  | theynis-lul | chi-Ø- <b>te</b> -la       |
|    | Mary-NOM/I-NOM   | tennis-ACC  | play-PRES- <b>te</b> -DECL |
|    | “[I made a sensory observation that] Mary/#I was playing tennis.”  |             |                            |

The final piece of evidence that suggests *-te* is an epistemic modal, is that modal subordination phenomena arise with *-te*. When speakers use a modal sentence, they do not commit themselves to the truth of the statement, rather they make a hypothetical supposition. If a non-modalized sentence follows the modalized one, an anaphor cannot be used to refer back to the subject of the previous sentences. However, if the following sentence is also modalized, this is possible. According to Lee (2011) *-te* also shows this pattern, as can be seen in (20).

- (20) Korean (Lee, 2011, p. 299)
- a. totwuk-i tul-**ess-te**-la. #ku-nun khi-ka  
 “thief-NOM break.in-PAST-**te**-DECL he-TOP height-NOM”
- cak- $\emptyset$ -ta.  
 short-PRES-DECL  
 “[I inferred that] a thief broke in. #He is short.”
- b. totwuk-i tul-**ess-te**-la ku-nun khi-ka  
 “thief-NOM break.in-PAST-**te**-DECL he-TOP height-NOM”
- cak-um.ey.thullimep.ta  
 short-must-DECL  
 “[I inferred that] a thief broke in. He must be short.”

### 3.1.1 Discussion

In short, Lee (2011) claims that Korean only has one evidentiality marker, namely *-te*, which has a different evidential meaning depending on the tense it occurs with. If it occurs with the past or future tense *-te* has an inferential evidential meaning, and when it occurs with the present tense *-te* has a direct evidential meaning. It is interesting to note, that even when the sentences are in the present tense, they are translated into past tense. Also, Lee (2011) describes that (18a) is ungrammatical because a non-modalized sentence cannot follow a modalized one. However, (18a) is a strange utterance in general, as the story takes place in the past. It is strange that one would then use the present tense to describe what the thief looked like. In my opinion it would make more sense to use the past tense.

Furthermore, Lee (2011) uses the ‘Non-equi subject constraint’ as evidence that *-te* is not a tense marker but is an epistemic modal instead. However, this proof could also be used as evidence that *-te* is an evidentiality marker and not necessarily an epistemic modal, as this constraint holds up for evidentiality markers as well.

Finally, Chung (2020), whose view on evidentiality in Korean will be discussed in more detail later, has provided counterexamples which show that, based on Lee’s (2011) analysis, one cannot conclude that *-te* is an epistemic modal. She states that a non-evidential, non-modalized sentence followed by assertion of the negation of  $\phi$  is also unacceptable, as shown in (21). This makes it unclear whether the unacceptability is because of *-te* or simply because of semantic contradiction.

- (21) Korean (Chung, 2020, p.181)
- |             |                   |                   |                      |
|-------------|-------------------|-------------------|----------------------|
| pi-ka       | o- <b>ass</b> -ta | #pi-ka            | an-o- <b>ass</b> -ta |
| rain-NOM    | come-PFCT-DECL    | rain-NOM          | NEG-come-PFCT-DECL   |
| “It rained. |                   | #It didn’t rain.” |                      |

Chung (2020) also states, that not only is *-te* subject to the ‘Non-equi subject constraint’, it is also subject to the ‘Equi-subject constraint’ which means that the subject of a sentence should be the first person, but not third person. This constraint mostly applies to sensory predicates and simple psych predicates, and therefore makes it impossible to make weak modal claims about the third person (unlike English), as shown in (22). Note that Chung (2020) glosses  $\emptyset$  as the direct evidential and *-te* as a past tense marker, unlike Lee (2011) who analyses  $\emptyset$  as the present tense and *-te* as an epistemic modal.

- (22) Korean (Chung, 2020, p. 182)
- a.    nay-ka/#Mary-ka           sulphu-Ø-**te**-la  
       I-NOM/Mary-NOM       sad-DIR-PAST-DECL  
       “[I felt] I/Mary felt sad.”
- b.    nay-ka/#Mary-ka           oylop-Ø-**te**-la  
       I-NOM/Mary-NOM       lonely-DIR-PAST-DECL  
       “[I felt] I/Mary felt lonely.”

Chung (2020) refutes the argument regarding the arising subordination phenomena with *-te* by showing that this does not apply to the sentences with direct evidential cases. She argues that such anaphoric dependencies are perfectly possible without modalizing the following sentences, as shown in (23), and that modalizing would actually be unnatural here.

- (23) Korean (Chung, 2020, p. 180)
- a.    totwuk-i           tuleo-Ø-**te**-la.                   ku-nun       khi-ka  
       thief-NOM       break.in-DIR-PAST-DECL       he-TOP       height-NOM
- cak-**ass**-ta.  
       be.short-PFCT-DECL  
       “[I saw that] a thief broke in. He is/was short.”
- b.    totwuk-i           tuleo-Ø-**te**-la.                   #ku-nun       khi-ka  
       thief-NOM       break.in-DIR-PAST-DECL       he-TOP       height-NOM
- cak-um.i.                           thullimeps.ta  
       be.short.NMLZ-NOM               be.certain-DECL  
       “[I saw that] a thief broke in. #He must be short.”

### 3.2 Epistemic Modals that Function as Evidentials

Contrary to Lee (2011), Chung (2020) claims that *-te* is not an epistemic modal, instead markers *-ess* and *-keyss* are analysed as the epistemic modals that function as inferential evidentials. According to Chung (2020), evidentiality in Korean does not only concern the overlap of the evidence acquisition and the eventuality, but also the overlap between the eventuality and the speaker’s perceptual range. In other words, there are both temporal restrictions and spatial restrictions on Korean evidentiality.

In this theory, *-te* itself is not an evidential but it creates an evidential interpretation, because *-te* provides information about the time and the place (in the past) of the speaker’s perception, and it also expresses that the speaker has perceived evidence of a given eventuality. An example of *-te* setting up an evidential reading is shown in (24). In this example *-keyss*, which is said to be a mood marker, denotes the speaker’s volition in the non-evidential sentence in (24a) but it denotes the speaker’s reasoning-based inference in the evidential sentence in (24b).



- (24) Korean (Chung, 2020, p. 193)
- |    |  |            |             |                           |
|----|--|------------|-------------|---------------------------|
| a. | nay-ka   | John-eykey | phyenci-lul | ssu- <b>keyss</b> -ta.    |
|    | I-NOM  | John-DAT   | letter-ACC  | write-MOOD-DECL           |
|    | “I will write John a letter.”                    |            |             |                           |
|    |  |            |             |                           |
| b. | nay-ka   | John-eykey | phyenci-lul | ssu- <b>keyss-te</b> -la. |
|    | I-NOM  | John-DAT   | letter-ACC  | write-REA.INF-PAST-DECL   |
|    | “[I inferred] I will/would write John a letter.” |            |             |                           |

The suffix *-ess* also shows a clear difference between its non-evidential use and its evidential use. Without *-te*, *-ess* is analysed as the perfect, whereas in an evidential sentence it denotes the speaker’s result-based inference, as shown in (25).

- (25) Korean (Chung, 2020, p. 193)
- |    |   |          |             |                         |
|----|---|----------|-------------|-------------------------|
| a. | Mary-ka                                       | John-uy  | phyenci-lul | ilk- <b>ess</b> -ta.    |
|    | Mary-NOM                                      | John-GEN | letter-ACC  | read-PFCT-DECL          |
|    | “Mary has read John’s letter.”                |          |             |                         |
|    |   |          |             |                         |
| b. | Mary-ka                                       | John-uy  | phyenci-lul | ilk- <b>ess-te</b> -la. |
|    | Mary-NOM                                      | John-GEN | letter-ACC  | read-RES.INF-PAST-DECL  |
|    | “[I inferred] Mary (has) read John’s letter.” |          |             |                         |

Both *-keyss* and *-ess* are indirect evidentials according to Chung (2020). She posits the zero morpheme  $-\emptyset$  for the direct evidential reading. Just like the two previously discussed suffixes,  $-\emptyset$  also has two uses. Besides the direct evidential use that it has, it is also used as a zero conditional when it appears without *-te*.

Next to *-te*, Chung (2020) also analyses the suffix *-ney* as a spatial deictic tense, which is a tense that provides both the time and place of the speaker’s perception. However, while *-te* refers to a location in the past, *-ney* refers to a location in the present.

Chung (2020) states that Korean has a four-term evidential system, namely the direct  $-\emptyset$ , the result-based inferential *-ess*, the reasoning-based inferential *-keyss*, and the two reportatives *-tanta* and *-tantela*, as shown in (26). Chung (2020) argues that the inferential evidentials are epistemic modals, while the direct evidentials and the reportatives are not.

- (26) Korean (Chung, 2020, p. 196)
- |    |  |             |  |
|----|--|-------------|--|
| a. | Mary-ka  | phyenci-lul | ssu- $\emptyset$ - <b>te</b> -la/ssu- $\emptyset$ - <b>ney</b> |
|    | Mary-NOM   | letter-ACC  | write-DIR-PAST-DECL/write-DIR-PRES                             |
|    | “[I observe/observed] Mary was/is writing a letter.” |             |  |
|    |  |             |  |
| b. | Mary-ka  | phyenci-lul | ssu- <b>ess-ney</b>  |
|    | Mary-NOM   | letter-ACC  | write-RES.INF-PRES   |
|    | “[I infer] Mary has written a letter.”               |             |  |
|    |  |             |  |
| c. | Mary-ka  | phyenci-lul | ssu- <b>keyss-te</b> -la.                                      |
|    | Mary-NOM   | letter-ACC  | write-REA.INF-PAST-DECL  |
|    | “[I inferred] Mary will/would write a letter.”       |             |  |

- d. Mary-ka phyenci-lul ssu-**ess-tanta/tantela**  
 Mary-NOM letter-ACC write-PFCT-HEAR/-SECOND  
 “[I hear/heard] Mary wrote a letter.”

Like Lee (2011), Chung (2020) uses Faller’s (2002) diagnostic tests to investigate whether or not the evidential sentences pattern the same as epistemic modals. The first test she does is the assent/dissent test, which explains that if an element can be challenged, it contributes to the truth of a given proposition, otherwise it does not. If the evidentials do indeed behave like modals, they should be challengeable. According to Chung (2020), the direct evidential cannot be challenged, while the hearer can challenge the premise used by the speaker when indirect inferential evidentials are used, as shown in (27) and (28).

(27) Korean (Chung, 2020, p. 200)

*Context:* A did not see Mina but saw the light in her house on. Now A says to B:

A Mina cip-ey pwul-i khye-ci-n ke-l  
 Mina house-LOC light-NOM turn.on-INCH-ATT thing-ACC

po-ni Mina-ka hakkyo-eyse tolao-ass-**keyss-te-la**.  
 see-INT Mina-NOM school-from return-PFCT-REA.INF-PAST-DECL

“Since I saw the light in Mina’s house on, [I inferred] Mina would have come back from school.”

B ani-ya. Mina-nun hangsang pwul-ul an-kku-e.  
 be.not-DECL Mina-TOP always light-ACC NEG-turn.off-DECL

“That’s not true. Mina never turns off the light.”

“That’s not true.” ≠ “Mina did not come back.”

“That’s not true.” = “It is not true that Mina would be in her house.”

(28) Korean (Chung, 2020, p. 200)

A Mina-ka hakkyo-eyse tolao-**Ø-te-la**.  
 Mina-NOM school-from return-DIR-PAST-DECL

“[I saw] Mina was coming back from school.”

B ani-ya. Mina acik an-o-**ass-e**  
 be.not-DECL Mina yet NEG-come-PFCT-DECL

“That’s not true.” = “Mina did not come back.”

“That’s not true.” ≠ “you did not see Mina’s coming back from school.”

Another test examined how felicitous the usage of the evidentials with a given proposition is. Speakers normally have no reason to weaken the factuality of a claim with an expression of modality when they are certain that the proposition is true. If the indirect evidentials are also not felicitous in this context, then it indicates that the indirect evidentials pattern like modals. According to Chung (2020) if the speaker knows that the embedded proposition is true, then the indirect inferential evidentials are indeed infelicitous, as seen in (29).

(29) Korean (Chung, 2020, p. 201)

Jwun-i Mina-wa kyelhonha-yss-te-la/yss-keyss-te-la.  
 Joon-NOM Mina-CONJ marry-RES.INF-PAST-DECL/PFCT-REA.INF-PAST-DECL  
 “[I found out/inferred] Joon got married to Mina.”

a. #nay-ka kyay-tul kyelhonha-nu-n kes-ul po-**ass**-ta  
 I-NOM they-PL marry-IMPF-ATT thing-ACC see-PFCT-DECL  
 “#I saw them marry.”

b. #nay-ka kyay-tul kyelhonha-n kes-ul a-n-ta  
 I-NOM they-PL marry-ATT thing-ACC know-IMPF-DECL  
 “#I know that they got married.”

The sentences in (29) show that, while the direct evidential is allowed in these contexts, the indirect evidentials are not. Chung (2020) states that it indicates that the indirect evidentials may be modals but that the direct evidential cannot be a modal.

### 3.2.1 Discussion

Chung (2020) claims that Korean uses a zero morpheme to express direct evidentiality, the epistemic modals *-ess* and *-keyss* to express inferential evidentiality, and the epistemic modals *-tanta* and *-tantela* to express reportative evidentiality. However, all these morphemes have two meanings, and for them to receive the evidential reading they have to occur together with *-te* or *-ney*, which are a past and present tense respectively.

Chung (2020) does not mention the future tense, however, whenever *-keyss* appears in a sentence, either with or without a spatial deictic tense, the sentence is translated with the future. Also, when *-ess* appears with present tense *-ney* the sentence is translated to present perfect. To me that indicates that, even if *-ess* and *-keyss* are indeed evidentiality markers in that context, they continue to mark tense.

Finally, Lim (2010), whose theory will be discussed later, has previously rejected the analysis of Chung (2007). According to him, Chung’s analysis “needs to assume unwanted ambiguity in the tense/modal morphemes *-ess* and *-keyss*” (Lim, 2010, p.86). The morphemes are said to be evidentiality markers when there are deictic tense markers present, but they are considered tense/modal elements when there are no deictic tense markers present. It is unclear why *-ess* and *-keyss* do not have evidential meaning without *-te*. Lim (2010) also states that there is no need for a deictic tense to be introduced to account for the presented data.

### 3.3 A Four-term Evidential System

Similar to Chung (2020), Song (2020) posits that Korean has a four-term evidential system. However, Song (2020) identifies some different evidentials than the ones that Chung (2020) mentioned. Song (2020) claims that the four grammatical markers of evidentiality are the past sensory evidential *-te*, the present sensory evidential *-ney*, an inferred evidential *-keyss*, and a reported evidential *-tay*. For both sensory evidentials the eventuality was observed directly, the difference between the two is the temporal reference of when the evidence was acquired. Because the tense does not indicate the time of the event itself, it is possible for *-te* to be used in sentences that express the present or the future, as long as the relevant evidence was acquired in the past, as shown in (30a). This also means that the marker *-ney* can be used in sentences that express the future or the past, as long as the relevant evidence is acquired at the time of the utterance, as shown in (30b).

- (30) Korean (Song, 2020, p. 416 & 420)
- a. taum            tal-pwuthe    kilum-kaps-i        olu-**te**-la  
 next            month-from    oil-price-NOM      rise-PAST.SENS-DECL  
 “The oil price rises from next month.”
- b. John-i           pelsse            hakkyo-ey        ka-**ss-ney**  
 John-NOM    already            school-LOC        go-PAST-PRES.SENS  
 “John already went to school.”

The inferred evidential *-keyss* indicates that the eventuality was not observed directly but that the speaker’s assertion was based on reasoning. This marker is often used to describe situations in the future, but like *-te* and *-ney*, it can also appear with other tenses, as seen in (31). Song (2020) uses this as evidence that *-keyss* is not a tense marker. Rather, he argues that *-keyss* is an inferential evidentiality marker that has an epistemic extension on probability, and that this modal meaning was derived from the evidential meaning.

- (31) Korean (Song, 2020, p. 423)
- ne            ecey            manhi            papp(u)-**ass-keyss-ta**.  
 you           yesterday    very            busy-PAST-INF-DECL  
 “You must have been very busy yesterday.”

Finally, the reportative evidential *-tay*, shown in (32), also indicates that the eventuality was not observed directly but that the speaker’s assertion is based on information obtained from someone else (hearsay). It does not indicate the exact source of the evidence, nor does it express the speaker’s commitment to the truth of the utterance.

- (32) Korean (Song, 2020, p. 427)
- John-i           hakkyo-ey            ka-n-**tay**  
 John-NOM    school-LOC        go-N.PAST-DECL.REPORT  
 “(They) say John goes to school.”

According to Song (2020), none of the above mentioned markers are usually used with first person. This is supposedly because the speaker’s own actions do not need to be supported with evidence as the speaker has first-hand knowledge of their own situations, which would make using a non-first-hand evidential counterintuitive. When the sensory markers are used with first person, the speaker’s actions are interpreted as non-volitional or lacking control, as shown in (33). This is known as the ‘first-person effect’ (Aikhenvald, 2004).

- (33) Korean (Song, 2020, p. 433)
- nay-ka           yangkoki-lul        ta            mek-**ney**  
 I-NOM            lamb-ACC            even        eat-PRES.SENS  
 “I am eating lamb. (I don’t usually eat lamb. I didn’t notice what I’m eating and now I see what I’m eating.)”

Song (2020) also describes that one can use multiple evidentials in a sentence to help express subtle meanings related to the utterance of the speaker. There are five possible combinations of the evidentials in Korean, as shown in (34).

(34) Korean (Song, 2020, p. 435-436)

- a. taum tal-pwuthe kilum-kaps-i olu-**keyss-te-la**  
next month-from oil-price-NOM rise-INF-PAST.SENS-DECL  
“It looks like the oil price rises from next month. (I acquired some sensory evidence in the past to believe so.)”
- b. taum tal-pwuthe kilum-kaps-i olu-**keyss-ney**  
next month-from oil-price-NOM rise-INF-PRES.SENS  
“It looks like the oil price rises from next month. (I am witnessing some sensory evidence at present to believe so.)”
- c. taum tal-pwuthe kilum-kaps-i olu-**te-lay**  
next month-from oil-price-NOM rise-PAST.SENS.DECL.REPORT  
“It is said it looks like the oil price rises from next month.”
- d. taum tal-pwuthe kilum-kaps-i olu-**keyss-tay**  
next month-from oil-price-NOM rise-INF-DECL.REPORT  
“It is said the oil price rises from next month.”
- e. taum tal-pwuthe kilum-kaps-i olu-**keyss-te-lay**  
next month-from oil-price-NOM rise-INF-PAST.SENS-DECL.REPORT  
“It is said that it looks like the oil price rises from next month.”

In example (34c) the speaker heard the information from someone else who had first-hand evidence about the future event, whereas the speaker in (34d) heard the information from someone who only had non-first-hand evidence. In (34e) the speaker heard the information about the future event from an informant, who received first-hand sensory information about this future event on which the informant then based their inference.

### 3.3.1 Discussion

In short, Song (2020) states that Korean has a four-term evidential system: past sensory *-te*, present sensory *-ney*, inferential *-keyss*, and reportative *-tay*. The tenses of the sensory evidentials indicate the time of acquiring the evidence and not the time of the event itself.

Like Chung (2020), *-te* and *-ney* are analysed as spatial deictic tenses. Although these morphemes are both considered tense markers, they do not seem to have the same position in the sentences. *-te* is a non-final morpheme whereas *-ney* seems to be a sentence-final morpheme. Would one not expect morphemes with the same function to also hold the same position within a sentence? However, this could be explained by the fact that *-ney* has functions as a declarative sentence ender.

Furthermore, both examples in (30) and (34) do not contain direct evidentiality. Besides the fact that, in (30a) and (34a-c,e), it is very unlikely that one actually sees the rising of oil prices, the sentence is translated as a prediction for the future. This means that the speaker cannot possibly have direct sensory evidence as the event has not yet happened. Also, since the event still has to happen in the future, I would translate the sentences with “will/would rise” rather than “rises” because using the present tense sounds awkward.

The sentence (30b) does not contain any sensory evidence either, because the speaker is not seeing John actually going to school. Instead, the speaker sees something on which they base the inference that John has left. Also, because (30b) contains the word ‘already’ using the present perfect would be more suitable in my opinion, which would make the sentence “John has already gone to school”.

Rather than direct evidentiality, the sentences in (30) and (34) seem to contain inferential evidentiality. Based on the examples given by Song (2020) it cannot be concluded that *-te* and *-ney* are direct evidentials.

Finally, Song (2020) argues that the modal meaning of *-keyss* was derived from the evidential meaning. This is highly unlikely, as according to Aikhenvald (2021) exponents of epistemic modality never come from the reinterpretation of evidentials in “healthy” languages. These are languages that are considered to be stable and are not endangered.

### 3.4 A Three-term Evidential System

Whereas Chung (2020) and Song (2020) suggest a four-term evidential system in Korean, Kim (2012) suggests that there are only three evidential suffixes in Korean, and that evidentiality in Korean is distinct from epistemic modality. The evidential suffixes are said to be the direct evidential *-te*, the reportative evidential *-tay*, and the inferential evidential *-ci*, following the B1 system of Aikhenvald (2004).

Kim posits that the Korean tense system only has two tenses: *-ess/ass* for anterior (ANT) and  $\emptyset$  for non-anterior. He states that anterior *-ess* locates the event time prior to or simultaneously with the reference time ( $E < R < S$  or  $ER < S$ ), and further explains that whether the anterior is interpreted as relative past tense or perfective aspect depends on whether the speaker focuses on the reference time or on the event time.

According to Kim (2012), the evidentiality marker *-te* can be used to show that the speaker had direct (perceptual) evidence for the claim, as shown in (35). However, the marker itself does not indicate which type of sensory evidence the speaker has acquired.

(35) Korean (Kim, 2012, p. 29)

*Context:* Yesterday the speaker saw Minswu and Miyeng enter a theatre. Now the speaker says:

Minswu-ka	ecey	pam-ey	Miyengi-hako
Minswu-NOM	yesterday	night-LOC	Miyeng-CONJ

kukcang-ey	ka-te-la
theatre-LOC	go-DIR-DECL

“(I saw) Minswu and Miyeng went to a theatre yesterday night.”

Kim (2012) claims that, besides the perceptual evidence, *-te* is also used to express the speaker’s internal experience, namely physical state, emotion and knowledge, as shown in (36a). Moreover, the meaning of *-te* seems to extend from sensory information to inference when it occurs together with future tense/epistemic modal *-keyss*, as shown in (36b).

(36) Korean (Kim, 2012, p. 29-30)

- a. san-eyse                      paym-ul                      po-**ass**-ul                      ttay  
 mountain-LOC                      snake-ACC                      see-ANT-ADN                      moment

nemwu                      mwusep-**te**-la  
 really                      scared-DIR-DECL

“When I saw a snake at the mountain, (I noticed) I was scared.”

- b. *Context:* Yesterday the speaker saw Minswu ask Miyeng to go to a theatre. Now the speaker says:

Minswu-ka                      nayil                      bam-ey                      Miyengi-hako  
 Minswu-NOM                      tomorrow                      night-LOC                      Miyeng-CONJ

kukchang-ey                      ka-**keyss**-**te**-la  
 theatre-LOC                      go-MOD-DIR-DECL

“(I infer that) Minswu and Miyeng would go to a theatre tomorrow night.”

Kim (2012) states that the reportative evidential *-tay*, shown in (37), is used to express that the speaker has indirect evidence based on what another person has said (hearsay). The marker can be used when the speaker has been told the information directly, as well as when there have been unspecified number of intervening speakers.

(37) Korean (Kim, 2012, p. 35-36)

- a. John-i                      Bill-ul                      ttayli-**ess**-**ta**-nta  
 John-NOM                      Bill-ACC                      beat-ANT-REPORT-DECL

“John beat Bill.”

*Implication:* the speaker heard that John beat Bill from someone else.

- b. John-i                      Bill-ul                      ttayli-**ess**-**ta**-pnita  
 John-NOM                      Bill-ACC                      beat-ANT-REPORT-DECL

“John beat Bill.”

*Implication:* the speaker heard that John beat Bill from someone else.

- c. John-i                      Bill-ul                      ttayli-**ess**-**ta**-e (tay)  
 John-NOM                      Bill-ACC                      beat-ANT-REPORT-DECL

“John beat Bill.”

*Implication:* the speaker heard that John beat Bill from someone else.

According to Kim (2012) there are many different variants of the reportative evidential *-tay* because there are six different types of sentence styles in Korean and each style has its own terminal suffix. An overview of the possible variations is shown in Table 3.

	<b>Declarative</b>	<b>Interrogative</b>	<b>Imperative</b>	<b>Propositive</b>
<b>Plain</b>	tanta	nunyanta	ulanta	canta
<b>Intimate</b>	tay	nyay	lay	cay
<b>Deferential</b>	tapnita	nyapnita	ulapnita	capnita

Table 3 Sentence styles in Korean, adopted from Kim (2012).

Kim (2012) describes that the evidential *-ci* is used to when a speaker has made an inference or deduction based on information other than a direct observation. Contrary to *-te* and *-tay*, *-ci* is a sentence-terminal suffix. Squartini (2008) has described three different types of inferences: circumstantial inferences, generic inferences, and conjectured inferences. In circumstantial inferences, the inference is based on the antecedent in the context or external sensory evidence (38a). In generic inferences, the inference is based on general world knowledge of personal experience (38b). In conjectured inference, the inference is based on incomplete information (38c), however the use of the Korean inference evidential seems to be unacceptable in such contexts.

(38) Korean (Kim, 2012, p. 43-44)

a. seccok hanul-ey mwekkwulum-i canttuk  
west sky-LOC dark cloud-NOM a lot

ki-ess-ta. pi-ka o-ci  
exist-ANT-DECL rain-NOM come-INF

“There are a lot of clouds in the western sky. It must be raining.”

b. 1 teha-ki 1-un 2-ci  
1 plus-CONJ 1-TOP 2-INF

“1 plus 1 equals 2.”

c. *Context:* the phone is ringing.

#cenhwa-ul ha-l salam-i eps-canha. Younghee-ci.  
telephone-ACC call-REL person-NOM not-believe. Younghee-INF.

I am not expecting anybody. (I am sure) it is Younghee.

According to Kim (2012) the Korean results are similar to Quecha (Faller, 2002), namely the evidential content denoted by the Korean evidentiality markers take scope over negation. This means that negated sentences do not mean that a speaker lacks evidence for the proposition, but only the propositional content itself is under the scope of the negation. Kim (2012) suggests that, because this is the case for all three evidentiality markers as seen in (39), they belong to the same category.

(39) Korean (Kim, 2012, p. 73)

a. Chulswu-ka Tayho-hako ecey soju-lul  
Chulswu-NOM Tayho-CONJ yesterday liquor-ACC

an masi-te-la  
NEG drink-DIR-DECL

“Chulswu and Tayho didn’t drink soju yesterday.”

(i) Speaker has direct evidence that Chulswu and Tayho didn’t drink soju yesterday.

(ii) #Speaker does not have direct evidence that Chulswu and Tayho drank soju yesterday.



- b. Chulswu-ka Tayho-hako ecey soju-lul  
 Chulswu-NOM Tayho-CONJ yesterday liquor-ACC
- an masi-**ess-tay**  
 NEG drink-ANT-REPORT  
 “Chulswu and Tayho didn’t drink soju yesterday.”
- (i) Speaker has reportative evidence that Chulswu and Tayho didn’t drink soju yesterday.
- (ii) #speaker does not have reportative evidence that Chulswu and Tayho drank soju yesterday.
- c. Chulswu-ka Tayho-hako ecey soju-lul  
 Chulswu-NOM Tayho-CONJ yesterday liquor-ACC
- an masi-**ess-ci**  
 NEG drink-ANT-INF  
 “Chulswu and Tayho didn’t drink soju yesterday.”
- (i) Speaker has conjectual evidence that Chulswu and Tayho didn’t drink soju yesterday.
- (ii) #Speaker does not have conjectual evidence that Chulswu and Tayho drank soju yesterday.

As seen before, Kim (2012) performs the assent/dissent test, also called the changeability test. In this test, it should be possible to challenge the propositional content in the scope of the evidential, whereas you cannot challenge the evidential content. Kim (2012) states that this test holds for the direct, reportative and inferential evidential as shown in (40), (41) and (42).

- (40) Korean (Kim, 2012, p. 77)  
*Scenario: your car was stolen*
- A Bill-i nay cha-lul hwumchi-**te**-la  
 Bill-NOM my car-ACC stole-DIR-DECL  
 “(I saw that) Bill stole my car.”
- B #Kukes-un sasil-i ani-ya. ne-nun Bill-i  
 that-TOP fact-NOM NEG-DECL you-TOP Bill-NOM
- ney cha-lul hwumchi-**ess-ta-nun** ke-sul Mary-eykey  
 you car-ACC steal-ANT-DECL-ADN thing-ACC Mary-from
- tul-**ess-el** ppwun-i-ya.  
 hear-ANT-ADN DN-be-DECL  
 “That’s not true. You only heard from Mary that Bill stole your car.”



- c. Chulswu-ka Tayho-hako ecey soju-lul masi-ess-ci?  
 Chulswu-NOM Tayho-CONJ yesterday liquor-ACC drink-ANT-INF  
 “Given what I know as what you know, Chulswu and Tayho drank soju yesterday, right?”

### 3.4.1 Discussion

To summarise, Kim (2012) states that the Korean evidential system can be categorised as the B1 system of Aikhenveld (2004). *-te* is analysed as the direct evidential, *-tay* is analysed as the reportative evidential, and *-ci* is analysed as the inferential evidential.

Kim (2012) describes that anterior *-ess* locates the event time prior to or simultaneously with the reference time (E<R<S or ER<S), which leads to an interpretation as relative past tense or perfective aspect. According to Reichenbach (1947) the anterior tense locates the event time before the reference time (E<R<S), which is used when referring to an action completed prior to a past setting. In English, this tense would take the form of the auxiliary “had” and a past participle. Since this covers perfective aspect mentioned by Kim (2012), it is reasonable to assume that (ER<S) expresses the relative past tense according to him, of which the imperfect is a common form (Comrie, 1985). Although it is unlikely that the morpheme *-ess* is ambiguous to this extent, as the ambiguity is not resolved by context, it does indicate that the Korean language might use a morpheme to express imperfect aspect.

Note that both *-te* and *-tay* are non-final morphemes whereas *-ci* is a sentence-final morpheme. Usually, however, morphemes with the same function also hold the same position within a sentence. TAME markers in Korean generally have a non-terminal position in a sentence, but *-ci* does not.

Kim (2012) also claims that, since all three evidentiality markers take scope over negation, they belong to the same category. However, from the results of the interrogative flip-test show that *-ci* does not always behave in the same way as *-te* and *-tay*, which is not something you would expect if they all are part of the same category.

### 3.5 Evidentials or Epistemic Modals?

Lim (2010) does not explicitly mention how many evidentiality markers Korean has, instead he mentions that there are at least two: the direct *-te* and the reportative *-ta*. Although many have argued that *-te* indicates that the speaker has direct evidence, it is still debated whether a reportative evidential exists in Korean, according to Lim (2010). Lim (2010) states that some researches describe *-tanta* as a reportative evidentiality marker, however others treat it as a phonological contraction of the quotative predicate *-ta-ay-nta*. Lim (2010) argues that the non-final morpheme *-ta* is the reportative evidentiality marker, rather than *-tanta*. In other words, when the sentence-ending morpheme is preceded by *-ta*, it implies that the speaker has reportative evidence regarding the assertion they are making, as shown in (44).

(44) Korean (Lim, 2010, p. 49)

- a. John-i Bill-ul ttayli-ess-ta.  
 John-NOM Bill-ACC beat-PAST-DECL  
 “John beat Bill”
- b. John-i Bill-ul ttayli-ess-ta-nta.  
 John-NOM Bill-ACC beat-PAST-REPORT-DECL  
 “John beat Bill”

*Implication:* the speaker heard that John beat Bill from someone else.

Lim (2010) claims that *-ta* is a reportative evidential and not a quotative construction, because they behave semantically differently from each other. One of those semantic differences is the previously mentioned first-person effect. If a quotative construction is used, no first-person effect should occur, whereas it should occur when the reportative evidential is used. He states that the speaker of (45a) “just replicates Bill’s utterance that he/she got drunk yesterday, the speaker may not be aware that he/she got drunk yesterday or does not wish to make any commitment as to whether Bill’s utterance is true or not” (Lim, 2010, p. 62), and that the speaker of (45b) “can only be felicitously uttered when the speaker was not aware that he/she got drunk yesterday or doubts the information source (and thinks that he/she did not get drunk yesterday)” (Lim, 2010, p. 62).

- (45) Korean (Lim, 2010, p. 62)
- a. (Bill-un)      nay-ka              ecey              chwiha-**ess**-ta-ko  
 Bill-TOP      I-NOM              yesterday      drunk-PAST-DECL-COMP
- malha-nta.  
 say-DECL  
 “Bill says I got drunk yesterday.”
- b.    nay-ka              ecey              chwiha-**ess-ta**-nta.  
 I-NOM              yesterday      drunk-PAST-REPORT-DECL  
 “I got drunk yesterday.”  
*Implication*: the speaker heard it from someone else and is not aware of it/doubts it.

Another piece of evidence to support that *-ta* is a reportative evidential and not a quotative construction, comes from tense/aspect/mood (TAM) morphemes which are in pre-final position in Korean. These morphemes appear on the contracted forms if they inflect with the main quotative predicate, as shown in (46).

- (46) Korean (Lim, 2010, p. 65)
- John-un      nay-ka              Bill-ul              manna-**ess**-ta-ay-**ess**-ta.  
 John-TOP      I-NOM              Bill-ACC              meet-PAST-DECL-V-PAST-DECL  
 “John told that I met Mary.”

If *-tanta* is the contracted version of *-ta-ay-nta*, then it is expected that the TAM morphemes appear between *-ta* and *-nta*. However, such placement of TAM morphemes is ungrammatical, as shown in (47).

- (47) Korean (Lim, 2010, p. 65)
- #cwungdong-eyse      cencayng-i              ilena-ss-**ta-ess**-ta.  
 Middle East-LOC      war-NOM              occur-PAST-**ta**-PAST-DECL  
 “*Intended*: (it is said) a war broke out in the Middle East.”

Like Chung (2020), Lim (2010) performs the assent/dissent test to test whether the evidentiality markers contain components of epistemic modality. According to Lim, for both *-te* and *-ta*, the reliability of the source can be challenged but the type of information, which is presuppositional, cannot be dissented, as shown in (48) and (49). Because of the lack of conclusive evidence, Lim (2010) states that the possibility of the presence of epistemic modality is left open.

(48) Korean (Lim, 2012, p. 113)

*Context:* Bill often lies. Yesterday Mary heard Bill telling John that Obama is coming to LA to give a speech. That was the first Mary had heard of it; she doesn't know whether it is true, but thinks Bill's probably lying. Today Mary heard John saying to Tom.

John: Obama-ka LA-ey o-n-**ta**-nta.  
 Obama-NOM LA-LOC come-PRES-REPORT-DECL  
 “(Reportedly) Obama is coming to LA.”

Mary: ani, kukes-un sasil-i ani-lke-ya. Bill-un hangsang  
 no, that-TOP fact-NOM NEG-may-DECL. Bill-TOP always  
 kecismal-ul ha-e.  
 lie-ACC do-DECL  
 “No, that may not be true. Bill always lies.”

(49) Korean (Lim, 2010, p. 114)

*Context:* Your car was stolen.

A Bill-i nay cha-lul hwumchi-ess-**ta**-nta  
 Bill-NOM my car-ACC steal-PAST-REPORT-DECL  
 “(Reportedly) Bill stole my car.”

B #kukes-un sasil-i ani-ya. ne-nun Bill-i ney cha-lul  
 that-TOP fact-NOM NEG-DECL you-TOP Bill-NOM your car-ACC  
 hwumchi-nun-kes-ul po-n-kes-ul icepeli-**ess**-e.  
 steal-REL-thing-ACC see-REL-thing-ACC forget-PAST-DECL  
 “That's not true. You forgot you saw Bill stole your car.”

The second test he executes is an embeddability test, which helps to distinguish epistemic modals from illocutionary operators. Lim (2010) explains that when evidentials are epistemic modals, evidentiality is introduced as presuppositions. However, when the evidentials are illocutionary operators, they change the illocutionary force of the sentence. Generally, epistemic modals can appear in an embedded proposition whereas illocutionary operators cannot. According to Lim (2010), using *-ta* in an embedded proposition, as shown in (50) is unacceptable for most Korean speakers regardless of what the matrix predicate might be.

(50) Korean (Lim, 2010, p. 117)

#John-un Mary-ka Bill-ul manna-**ess**-**ta**-nta-ko  
 John-TOP Mary-NOM Bill-ACC meet-PAST-REPORT-DECL-COMP  
*No translation available*

There is more debate regarding the use of *-te* in embedded propositions. Lee (2011) has stated that the use of *-te* in an example like (51) is acceptable, however Lim (2010) states that, to him, this kind of sentence is also unacceptable.

- (51) Korean (Lim, 2010, p. 118)
- |                                  |           |                  |                        |
|----------------------------------|-----------|------------------|------------------------|
| ?John-un                         | ecey      | Mary-ka          | tamyo-lul              |
| John-TOP                         | yesterday | Mary-NOM         | blanket-ACC            |
| ppal- <b>ass-te</b> -la-ko       |           | onul achim-ey    | malha- <b>ess</b> -ta. |
| wash-PAST- <b>te</b> -DECL-COMPL |           | today morning-at | say-PAST-DECL          |
- “This morning John said that [John inferred that] Mary washed the blanket yesterday.”

Because of the lack of conclusive evidence from both the assent/dissent test and the test of embeddability, Lim (2010) concludes that it cannot be ruled out that the morphemes are epistemic modals. According to him, Korean evidentials do not behave like illocutionary operators nor epistemic modals. The conclusion that he draws is that Korean evidentials are neither epistemic modals nor illocutionary operators, instead they introduce evidential presuppositions. This means that “Korean evidentials introduce definedness conditions regarding the source of the speaker’s information” (Lim, 2010, p. 92).

### 3.5.1 Discussion

According to Lim (2010), Korean has at least two evidentiality markers, namely the direct evidential *-te* and the reportative evidential *-ta*. Although the tests he executed did not prove that the markers are epistemic modals, they also couldn’t rule it out.

Unlike Chung (2020), who analyses *-tanta* as the reportative evidential, Lim (2012) analyses *-ta* and a reportative evidential and *-nta* as a declarative sentence-ending morpheme. This would mean that both evidentiality markers are non-final morphemes, which makes sense because you would expect morphemes with the same function to be bound by the same rules. Also, sentences in Korean usually end with a declarative morpheme, and/but if the whole of *-tanta* is analysed as a evidentiality marker then there’s no declarative sentence ending.

### 3.6 An All-round Evidential

Similar to Kim (2012), Sohn (2018) suggests that Korean has suffixes that can be classified as the direct evidential, the reportative evidential, and the inferential evidential. One of these markers is the pre-final suffix *-te*, which, according to Sohn (2018, p. 5), is used “when the speaker wants to communicate that they have visual, sensory or inferential evidence for what they are talking about”, as shown in (52).

- (52) Korean (Sohn, 2018, p. 5)
- a. John-i            ttena-**ss**-ta.  
John-NOM    leave-PAST-DECL  
John left.
  - b. John-i            ttena-**te**-la [speaker’s past perception]  
John-NOM    leave-RETRO-DECL  
i. [I saw] John leaving.  
ii. [I realised/noticed/learned] that John would be leaving.
  - c. John-i            ttena-**ss-te**-la. [speaker’s past perception]  
John-NOM    leave-PAST-RETRO-DECL  
[I realised/noticed] that John had left.

According to Sohn (2018), *-te* has two possible readings in non-past sentences, such as (50b), namely the direct evidential reading because of direct visual observation, and the indirect inferential evidential reading because of indirect evidence obtained through seeing or hearing. How the sentence will be interpreted is dependent on the time adverbials used, such as ‘tomorrow’ or ‘yesterday’, or a given discourse context. In past sentences, *-te* is always interpreted as the inferential evidential, as shown in (52c). Sohn (2018) also states that, although *-te* itself incorporates past time as a semantic feature, the marker itself is not a past tense marker. The arguments given for this are that (a) the primary meaning of the morpheme is the speaker’s perception, (b) it does not make the proposition a past event, and (c) there are other, genuine past markers such as *-ess*.

Another meaning of *-te* expresses the speaker’s own first-hand experiences. This use mainly occurs with an experiencer subject, unaccusative verbs, and emotive adjectives. However, *-te* cannot be used with the first person to refer to their own conscious actions, as shown in (53).

- (53) Korean (Sohn, 2018, p. 7)
- a. na-nun kimchi-ka mayp-**te**-la.  
 I-TOP kimchi-NOM hot-RETRO-DECL  
 [I felt] the kimchi was hot.
- b. ?na-nun nol-ko.iss-**te**-la.  
 I-TOP play-PROG-RETRO-DECL  
 ?[I saw] myself playing around.

The suffix *-ney* is also described as a first-hand evidentiality marker. Unlike *-te* however, *-ney* indicates the present or immediate perception of an eventuality, and it is a sentence ender. Also, *-te* is an evidential in all contexts, while *-ney* is not. *-ney* has two different uses, one of which is the evidential reading. When this is the case the intonation usually ends in a slightly raised tone. The second, more prototypical use, is its use as a declarative sentence ender, which usually ends in a low tone. An example of the different interpretations is shown in (54). The abbreviation INS refers to an instantaneous perception.

- (54) Korean (Sohn, 2018, p. 9)
- pakk-ey pi-ka o-**ney**(!)  
 outside rain-NOM come-DECL/INS  
 i. It’s raining outside.  
 ii. [I see] it’s raining outside!

Lastly, Sohn (2018) states that there are two reportative evidentials in Korean, namely the declarative suffixes *-ta(y)* and *-la(y)*, which do not require an overt or covert reporter, as shown in (55).

- (55) Korean (Sohn, 2018, p. 14)
- hankwuk-ey cwungkwuk haksayng-i manh-**ta**-yo.  
 Korea-LOC Chinese students-NOM many-REPORT-R  
 [They said/I heard/It is said] that there are many Chinese students in Korea.

### 3.6.1 Discussion

In short, Sohn (2018) states that Korean has two direct evidentials, namely *-te* and *-ney*, of which the former is used for the past and the latter is used for the present. Besides the direct evidentials, Korean also has the reportative evidentials *-ta(y)* and *-la(y)*, and the inferential evidential *-te*. Distinction between direct *-te* and inferential *-te* is dependent on adverbials and discourse context according to Sohn (2018). However, it is unlikely that only one morpheme is used to convey both direct and indirect evidentiality. Furthermore, it is strange that (52b) can also refer to an event in the future, when there is no future marker in the sentence. Looking back to the previously described analyses, different markers are used to express different kinds of evidentiality, and that to express the future the morpheme *-keyss* is used.

## 4. The Implication of Imperfective Aspect

### 4.1 Tense and Aspect

Recall that Reichenbach (1947) distinguishes three different time points that tenses have: the point of speech (S), the point of the event (E), and the point of the reference (R). As explained before, the time of the event can be extended by adding an additional indication, namely perfective or imperfective aspect. Perfective aspect presents actions or events as complete from an outside perspective. Imperfective aspect presents actions or events as continuous or habitual from an internal perspective.

Kwon (2013) states that a combination of *-ess* and *-te* (*-ess-te*) is a pluperfect tense marker, and that *-ess* is the anterior tense while *-te* encodes retrospectivity. He explains that *-te* indicates a past imperfective focal event of which the speaker acquired information because they witnessed that event. Recall that the anterior tense locates the event time prior to the reference time ( $E < R < S$ ), which, according to Reichenbach (1947), should result in a perfect tense. However, as shown (56), Kwon glossed *-ess* with simple past, much like Kim (2012). This leads me to believe that *-ess* does not express anterior tense. Instead I believe it expresses perfective past, which presents actions or events as complete from an outside perspective.

- (56) Korean (Kwon, 2013, p. 1253)
- |               |             |          |                      |
|---------------|-------------|----------|----------------------|
| ai-tul-to     | palamppacin | kong-ul  | cha- <b>ass</b> -la, |
| child-PL-even | flat        | ball-ACC | kick-ANT-DECL        |
- Even the children kicked the ball.

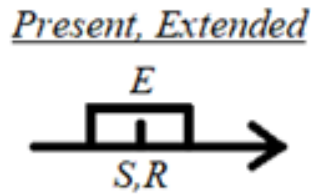
The different analyses of Korean have shown that *-te* is analysed as a past tense marker by some (Chung, 2020), while others claim it does not mark past tense but evidentiality instead (Lim, 2010; Kim, 2012). There are also those who believe it's a combination of the two (Sohn, 2018; Song, 2020). Based on all the examples discussed earlier, it is an unlikely conclusion that *-te* does not mark tense. Many, if not all of the sentences containing *-te* result in a past tense interpretation of the sentence, even when it contains a present tense marker as well. Therefore, I posit that *-te* marks past tense, just like *-ess* does. The difference between the two, however, is that whereas *-ess* marks perfective past, *-te* marks imperfective past. This means that using *-te* presents an action or event as continuous or habitual from an internal perspective. Following the example of the French tenses, I suggest that *-te* is an extended tense whereas *-ess* is not. A sentence using *-te* should therefore be interpreted as a past progressive tense, as shown in (57), while *-ess* should be interpreted as simple past tense, as shown in (58). As Kwon (2013) suggests, having both *-te* and *-ess* in one sentence can then be a pluperfect tense marker ( $E < R < S$ ), as shown in (59).



- (57) a. pi-ka                      o-**te**-la  
rain-NOM                      fall-IMPF.PAST-DECL  
It was raining.
- b. Mary-ka                      hakkyo-ey                      ka-**te**-la  
Mary-NOM                      school-LOC                      go-IMPF.PAST-DECL  
[I saw that] Mary was going to school.
- c. Mina-ka                      hakkyo-eyse                      tolao-**te**-la.  
Mina-NOM                      school-from                      return-IMPF.PAST-DECL  
Mina was coming back from school.
- (58) a. John-i                      Bill-ul                      ttayli-**ess**-ta.  
John-NOM                      Bill-ACC                      beat-PFV.PAST-DECL  
John beat Bill
- b. (Bill-un)                      nay-ka                      ecey                      chwiha-**ess**-ta-ko  
Bill-TOP                      I-NOM                      yesterday                      drunk-PFV.PAST-DECL-COMP
- malha-nta.  
say-DECL  
Bill says I got drunk yesterday.
- c. John-i                      ttena-**ss**-ta.  
John-NOM                      leave-PFV.PAST-DECL  
John left.
- (59) a. pi-ka                      o-**ass-te**-la  
rain-NOM                      fall-PFV.PAST-IMPF.PAST-DECL  
It had rained.
- b. John-i                      ttena-**ss-te**-la.  
John-NOM                      leave-PFV.PAST-IMPF.PAST-DECL  
John had left.

If *-ney* is indeed the counterpart of *-te* as Chung (2020), Song (2020) and Sohn (2018) suggest, then you would expect *-ney* to also be an extended tense, which also marks imperfective present. According to Reichenbach (1947), the point of speech, the point of the event and the point of the reference all coincide with each other in the present tense (E,R,S). Using the extended present tense suggests that the event is still ongoing at the point of reference and at the point of speech, this is represented in (60). As the event is still ongoing, a sentence containing *-ney*, like (61), should be interpreted as a present progressive tense. A combination of perfective past *-ess* and imperfective present *-ney*, as shown in (62), can result in a perfective interpretation of an extended event in present tense (E,S<R).

(60)



(61) a. Mary-ka phyenci-lul ssu-**ney**  
Mary-NOM letter-ACC write-IMPF.PRES  
Mary is writing a letter.

b. nay-ka yangkoci-lul ta mek-**ney**  
I-NOM lamb-ACC even eat-IMPF.PRES  
I am eating lamb.

(62) a. Mary-ka phyenci-lul ssu-**ess-ney**  
Mary-NOM letter-ACC write-PFV.PAST-IMPF.PRES  
Mary has written a letter.

b. John-i pelsse hakkyo-ey ka-**ss-ney**  
John-NOM already school-LOC go- PFV.PAST-IMPF.PRES  
John has already gone to school.

Finally, there is the marker *-keyss* which often appears alongside *-te* or *-ney*. In most of the articles discussed previously, *-keyss* is described as being the future tense marker. Reichenbach (1947) describes that for future tense the point of speech and the point of reference coincide, and that they occur before the point of the event ( $R,S < E$ ). Based on the previous logic, a sentence containing future tense *-keyss* and imperfective past *-te*, as shown in (63), might result in a tense which is known as “future in the past”. This is a tense where the point of the (extended) event occurs after the point of reference, and both of those precede the point of speech ( $R < E < S$ ) (Comrie, 1985). A sentence containing future tense *-keyss* and extended present tense *-ney*, as shown in (64), might be interpreted as a future continuous tense. A future continuous tense places the point of speech before the point of reference, which in turn both occur before the time of the event ( $S < R < E$ ).

(63) a. pi-ka o-**keyss-te-la**  
rain-NOM fall-FUT- IMPF.PAST -DECL  
It would rain.

- b. Mary-ka phyenci-lul ssu-**keyss-te**-la.  
 Mary-NOM letter-ACC write-FUT- IMPF.PAST -DECL  
 Mary would write a letter.
- c. Minswu-ka nayil bam-ey Miyengi-hako  
 Minswu-NOM tomorrow night-LOC Miyeng-COM
- kukchang-ey ka-**keyss-te**-la  
 theatre-LOC go-FUT- IMPF.PAST-DECL  
 Minswu and Miyeng would go to a theatre tomorrow night.

- (64) taum tal-pwuthe kilum-kaps-i olu-**keyss-ney**  
 next month-from oil-price-NOM rise-FUT-IMPF.PRES  
 It looks like the oil price will be rising from next month.

There is also one sentence, which contains *-ess*, *-te*, and *-keyss*, shown in (65). Based on what has been previously discussed, it would be expected that this sentence is interpreted as a future perfect tense. For this tense the point of speech occurs before the point of the event, and the point of reference is in the future rather than in the past (Comrie, 1985), which results in (S<E<R).

- (65) Mina cip-ey pwul-i khye-ci-n ke-l  
 Mina house-LOC light-NOM turn.on-INCH-ATT thing-ACC
- po-ni Mina-ka hakkyo-eyse  
 see-INT-CONJ Mina-NOM school-from
- tolao-**ass-keyss-te**-la.  
 return-PFV.PAST-FUT-IMPF.PAST-DECL  
 Since I saw the light in Mina's house on, [I inferred] Mina would have come back from school.

It has become clear that not only do the morphemes *-ess*, *-te* and *-ney* mark tense, they also mark aspect. In other words, these morphemes mark multiple cross-categorical features. This makes these morphemes cumulative morphemes. Like portmanteau morphemes, cumulative morphemes can combine two or more features, which means that it is possible that these morphemes can mark evidentiality, while also marking tense and aspect.

#### 4.2 Mood and Evidentiality

Some claim that the evidentiality markers in Korean are epistemic modals, whereas others claim that the markers are evidentials. The function of epistemic modals is to evaluate the evidence and to assign a confidence measure to the speaker's utterance, whereas the function of evidentials is to encode the source of the evidence (De Haan, 1999). However evidentials and epistemic modality are closely related, as the degree of certainty that the speaker has is dependent on the kind of evidence they have.

The marker *-te* is described by many as being a direct evidential. However, it could be the case that *-te* is not a direct evidential at all, but that it seems to have this meaning because of its imperfective aspect. When something has imperfective aspect, the action or event is presented from an internal perspective, as shown in (66).

- (66) Spanish (Mulder et al., to appear)  
 Pablo **tendía** la ropa en el balcón  
 Pablo hang.IMPF the laundry on the balcony  
 “Pablo was hanging the laundry on the balcony.”

It could be that the interpretation of *-te* as a direct evidential arises because of this narrative style of speaking about an event, which could mean that Korean uses evidentiality strategies rather than using a closed system of grammatical forms. To clarify, this would mean that Korean does not have a grammatical category specifically for evidentials, instead an existing grammatical category acquired source of information as a secondary meaning. Since it was previously discussed that it is likely that *-te* is a cumulative morpheme, and therefore can have multiple meanings, it is plausible that this is indeed the case.

Kwon (2013) argues that the primary function of *-te* is to mark evidentiality. The first reason given is that the evidentiality of *-te* is indefeasible when combined with other grammatical elements, as shown in (67a). The second clause in (67a) contradicts the first clause. The second reason given is that, when combined with marker *-ess*, the evidentiality of *-te* is still encoded because the sentence is still considered ungrammatical, but its imperfectivity is lost, as shown in (67b). This would mean that *-te* does not have an evidential meaning because of its imperfective aspect, as suggested earlier.

- (67) Korean (Kwon, 2013, p. 1254-1255)
- a. #ai-tul-i palamppacin kong-ul cha-**te**-la,  
 child-PL-NOM flat ball-ACC kick-IMPF.PAST-DECL  
 kulentey kukes-ul po-ci-mos-ha-ess-ta  
 but the.child-PL.ACC see-CONN-NEG-do-PFV.PAST-DECL  
 The children were kicking the flat ball, but I didn't see them.
- b. #ai-tul-i palamppacin kong-ul cha-**ass-te**-la,  
 child-PL-NOM flat ball-ACC kick-PFV.PAST-IMPF.PAST-DECL  
 kulentey kukes-ul po-ci-mos-ha-ess-ta  
 but the.child-PL.ACC see-CONN-NEG-do-PFV.PAST-DECL  
 The children had kicked the flat ball, but I didn't see it.

Chung (2020) also suggests that combining *-ess* and *-te* denotes an evidential reading, only she suggests that it results in a result-based inference and that it does not mark direct evidentiality, as shown in (68). Furthermore, Sohn (2018) also shows that the combination of *-ess* and *-te* results in inferential evidentiality, shown in (69). If both of these interpretations are correct, then this begs the question why sentence (67b) is still considered ungrammatical.

(68) Korean (Chung, 2020, p. 193)

- a. Mary-ka      John-uy      phyenci-lul      ilk-**ess**-ta.  
Mary-NOM      John-GEN      letter-ACC      read-PFV.PAST-DECL  
“Mary has read John’s letter.”
- b. Mary-ka      John-uy      phyenci-lul      ilk-**ess-te**-la.  
Mary-NOM      John-GEN      letter-ACC      read-PFV.PAST-IMPF.PAST-DECL  
“[I inferred] Mary (has) read John’s letter.”

(69) Korean (Sohn, 2018, p. 5)

- John-i      ttena-**ss-te**-la. [speaker’s past perception]  
John-NOM      leave-PFV.PAST-IMPF.PAST-DECL  
[I realized/noticed] that John had left.

So besides the direct evidential meaning, some state that the meaning of *-te* also has or can be extended to also have inferential meaning. It is very unlikely that the same marker is used to indicate both direct and indirect evidentiality, because cumulative morphemes cannot be intra-categorical. Referring back to the examples given by Song (2020) in (34), *-te* does not seem to provide any direct evidence at all, instead all sentences provide inferential evidence. Faber, Rem & De Hoop (to appear) explain that confusion between direct evidentiality and inferential evidentiality often occurs when the inference is based on direct evidence, which is the case in the examples that Song (2020) provides, as can be seen in (70). Based on this, it seems more likely that, if *-te* carries evidential meaning, it carries an inferential meaning rather than a direct meaning. The same can probably be said about *-ney*, as *-te* and *-ney* seem to be closely related.

(70) Korean (Song, 2020, p. 416 & 420)

- a. taum      tal-pwuthe      kilum-kaps-i      olu-**te**-la  
next      month-from      oil-price-NOM      rise-IMPF.PAST-DECL  
“The oil price rises from next month.”
- b. John-i      pelsse      hakkyo-ey      ka-**ss-ney**  
John-NOM      already      school-LOC      go-PFV.PAST-IMPF.PRES  
“John already went to school.”

Chung (2020) claims that morphemes *-ess* and *-keyss* are epistemic modals used to express inferential evidentiality when they occur together with *-te*. However, even when they occur in their evidential context, they continue to also mark tense. Furthermore, all other accounts that were covered refer to *-ess* as a form of past tense, rather than an evidential, even when it occurs together with *-te*. It is more likely that the evidential meaning comes from *-te* itself rather than *-ess*.

Besides being labelled as an epistemic modal, *-keyss* was often described as either a future tense marker or a inferential evidential. It is difficult to separate these two features from each other, because the future is often inferred. This means that a future tense marker can also encode inferential evidentiality. Finally, in my opinion, it has become clear that *-ta*, in its many different forms, is indeed the reportative evidential.

## 5. Conclusion

There is a wide variation in theories regarding evidentiality markers in Korean, and this is not only due to the overlap that evidentiality inherently has with tense, aspect and mood. An example of that overlap is the relation between epistemic modality and inferential evidentiality, because inferring from evidence results in a statement based on knowledge. There is also the correlation between the epistemic strength of a statement and its evidence, as having direct evidence leads to stronger claims than having indirect evidence. What makes this matter even more complicated is that the Korean markers seem to be cumulative morphemes. This means that these morphemes are polysemous, and can have multiple cross-categorical meanings/functions. So what should these morphemes be classified as?

Marker *-te* has been analysed as many different things: a past tense marker, a past sensory evidential, a direct evidential, and an inferential evidential. It is unlikely that *-te* carries all of these meanings, since cumulative morphemes cannot be intra-categorical. One thing that all the analyses do seem to agree upon, however, is that *-te* in one way or another results in a past tense reading. Although presenting *-te* as a past tense marker does explain part of the presented data, it cannot explain all of it. Therefore, calling *-te* a past tense marker is not specific enough. It was found that analysing *-te* as a marker of the imperfective past does explain most of the data given. Implementing perfective and imperfective aspect also helped to make sense of sentences that used *-ess*, *-ney* and *-keyss*. Morpheme *-ess* is a past tense marker just like *-te*. The difference between the two is that whereas *-te* marks imperfective aspect, *-ess* marks perfective aspect. The morpheme *-ney* is very similar to *-te* in that they both mark imperfective aspect, but *-ney* marks imperfective aspect in the present tense, rather than in the past tense. Lastly, there seems to be the general consensus that *-keyss* marks future tense.

It remains unclear, however, whether the morphemes are evidentials or epistemic modals. The test results presented by Lim (2010), Lee (2011), Kim (2012) and Chung (2020) could neither confirm nor eliminate either of these two options. However, since the ‘first person effect’ occurs with evidentials rather than with epistemic modals, it seems that analysing the morphemes as evidentials would make more sense. It could also be the case that Korean does not have a grammatical category specifically for evidentials, but that an existing grammatical category acquired source of information as a secondary meaning instead. For example, because imperfective *-te* and *-ney* present actions from an internal perspective it could give rise to an evidential interpretation.

Although *-te* is often described as a direct evidential, the data that Song (2020) presents actually make it seem more likely that *-te* carries an inferential meaning, rather than a direct meaning. As explained earlier, confusion between direct evidentiality and inferential evidentiality may occur when the inference is based on direct evidence. Again, since *-ney* is described as the counterpart of *-te*, it is likely that *-ney* also carries the meaning of inferential evidentiality rather than direct evidentiality, as was shown in (70). It is difficult to say whether *-keyss* is an inferential evidential or if it just seems like one because the future is inferred. Morpheme *-ess* on the other hand, does not have an evidential meaning. However, the possibility that none of the mentioned morphemes mark evidentiality should not be ruled out.

These findings should be further looked into in future research. It would be interesting to learn whether Korean people do indeed experience the use of *-te* or *-ess* as a difference in perspective, and whether it is the internal perspective that gives rise to an evidential reading or whether *-te* and *-ney* themselves function as evidentials.

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